

the track of ships to and from Gulf ports, which timely information is very much appreciated. (Signed) Robert L. Hague.

From the port captain (New York) of the Pan-American & Transport Co. (dated October 1, 1923):

I always feel when valuable service is rendered gratuitously that it is the least reward one can do is to show his appreciation. We certainly appreciate prompt reports from you giving us details of last week's hurricane; having ships in its track we were naturally anxious. We have since heard from them that by receiving weather reports enabled them to steer clear of the hurricane track. Thanking you for past performances and trusting for future assistance, etc. (Signed) H. A. Henshaw.

From the manager, Southern Pacific Co. (dated October 1, 1923):

While I have never had the pleasure of personally meeting you, I recall having received many communications from you with reference to weather conditions on the coast, which have been invaluable to our outgoing ships, as well as ships that were at sea and could be reached by wireless, in advising them of weather conditions they might expect to encounter. I consider the Weather Bureau and the service which it renders of inestimable value to shipping and want to thank you for keeping us informed of storm conditions on the coast, and hope you will continue to do so in the interest of coastwise shipping. (Signed) C. W. Jungen.

From the captain of the *Southern Cross*, a press report dated October 7, 1923, en route from Buenos Aires to New York:

"That we came through it [the hurricane] without serious trouble," the skipper said, "I attribute to the radio warnings sent from New York (?) by the Weather Bureau. The bureau let us know what to expect, and acting upon this advice, we skirted the rim of the biggest blow I have seen in all my experience. (St. Louis Post Dispatch.)

The track of this hurricane and reports from vessels encountering it will be found elsewhere in this number of the REVIEW.

On several days during the month frost warnings were required for the northern part of the Washington forecast district, and these were issued as occasion demanded.

CHICAGO FORECAST DISTRICT.

The principal features of the weather conditions in the Chicago forecast district during the month of September were the cool period during the second and a portion of the third week, a warm period the closing week of the month, and the exceptional storm in the West which caused torrential rains in some of the Plains States and on the eastern Rocky Mountain slope.

A cool high area appeared in British Columbia on the 9th and gradually moved southeastward, bringing with it temperatures below normal and finally frosts over the Northwestern States, as far east as the Upper Lake Region on the 13th, and by the 14th southward almost to the Ohio Valley. The southwestern portion of the district escaped, there being no frosts reported in Missouri or Kansas. Frost warnings were issued to nearly all points threatened in advance.

Special frost warnings were also sent to the Wisconsin cranberry marshes and the tobacco fields, and low temperatures were reported in both these areas on the mornings of the 12th and 13th.

The warnings to the cranberry marshes were discontinued at the end of September, and some of the growers expressed much appreciation of the value of the service during the season.

Mr. Charles L. Lewis, Beaver Brook, Wis., writes as follows:

The freeze of September 12 and 13, or rather 13 and 14, caused very little damage in this county, as we all had plenty of water and used it. We had ample warning of the frost and were able to protect with very little loss.

I understand, however, that they had considerable damage in Wood County and near Mather, where their water supplies are limited.

Thanking you very much for the very splendid services that you have rendered to us during the season just closed.

Mr. Ermon C. Bennett, of Wisconsin Rapids, Wis., in his letter of September 27, expresses appreciation as follows:

I wish to thank you on behalf of the cranberry growers of this vicinity for your interest in sending frost warnings. The warnings have been a great help and the marsh people depend on them more each year.

It is understood that considerable damage was done to the tobacco crop where advantage was not taken of the warnings issued.

No general windstorms occurred on the Great Lakes during the month, and the only storm warning was that issued to Lake Michigan ports on the 20th. The winds, however, did not reach gale force, and as the storm seemed to diminish in energy the warnings were lowered after a short display.

Special forecasts were made for some State fairs with apparent success.

The special forecast that was sent to Sturgeon Bay, Wis., for the orchardists in Door County in connection with spraying, was discontinued on the 11th. Mr. Leon K. Jones, plant pathologist, in charge of this special work, states under date of September 9:

The weather predictions that you have sent this season have proved of great benefit to myself and many of the fruit growers of the district. The service may, however, be discontinued at this time.

H. J. Cox.

NEW ORLEANS FORECAST DISTRICT.

Moderate weather conditions prevailed generally during the month of September. No storm warnings were issued and no storm winds of sufficient duration to constitute a storm occurred. Small-craft warnings were displayed on the 16th in the Corpus Christi section, ordered by the official in charge at Corpus Christi. No fire-weather warnings were necessary and none was issued.—I. M. Cline.

DENVER FORECAST DISTRICT.

Unusually cool weather prevailed in the Denver forecast district in September. Frost warnings were issued on a number of dates for the various parts of the district. They were grouped in the following periods, 10-13, 17-20, 24-26, and 27-29. For the most part they were justified by the weather conditions that followed.—Frederick W. Brist.

SAN FRANCISCO FORECAST DISTRICT.

During September the weather in this district began to show the transition from summer to autumn. Storms from the North Pacific moved inland at somewhat lower latitudes and influenced the weather over the Pacific coast.

A period of very warm weather prevailed during the first decade and records of high temperatures in September were broken at Sacramento, Reno, and Portland on the 7th, and at Winnemucca on the 8th.

Southwest storm warnings were ordered at Washington stations on the 23d, and were verified.

Fire-weather warnings were issued on the 6th, in Washington, Oregon, Idaho, and northern California, and on the 16th, over the entire district. The warnings were timely and verified.

Rain warnings were issued in northern California on the 13th, 21st, and 22d, and in southern California on the 22d. These were generally verified.—G. H. Willson.